

What is claimed is:

1. A piston rod rotary driving device of a screw nail gun; the driving device being installed in a gun head of the screw nail gun;

the gun head comprising at least one pneumatic motor capable of being driven by high pressure air, a cylinder capable of loading high pressure air; a piston rod in the cylinder, one end of the piston rod having a piston; the piston being actuated by the high pressure air so as to trigger a screw nail to move linearly; another end of the piston rod being driven by the pneumatic motor to rotate the screw nail;

wherein a spindle of the pneumatic motor is installed with a rod groove for receiving the piston rod; and the spindle of the pneumatic motor drives an output disk to rotate;

a plurality of polygonal supporting holes are formed at a center portion of the output disk; the piston rod is a polygonal rod so that the piston rod can be coupled to the supporting holes to move therein; and the output disk drives the piston to rotate.

2. The piston rod rotary driving device of a screw nail gun as claimed in claim 1, wherein a planet gear set is installed between the spindle of the pneumatic motor and the output disk for transferring rotation power.

3. The piston rod rotary driving device of a screw nail gun as claimed in claim 1, wherein the planet gear set is formed by a driving gear and a plurality of driven gears; the driving gear is firmly secured to a distal end of the spindle of the pneumatic motor; and the driven gears are pivotally installed on the disk surface of the output disk; the plurality of driven gears are arranged around the driving gear and are driven by the driving gear so as to further drive the output disk to rotate.

4. The piston rod rotary driving device of a screw nail gun as claimed in claim 2, wherein the output disk is pivotally installed to a bearing seat.

5. The piston rod rotary driving device of a screw nail gun as claimed

in claim 1, wherein a bush with a shape identical to that of the supporting hole is installed in the supporting hole so as to install the piston rod in the bush; the piston rod is movable in the bush.